

11-8-00

A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
REQUEST FOR FILING NATIONAL PATENT APPLICATION
under 35 USC 111(a) and Rule 53(b) WITH SIGNED DECLARATION

PATENT
APPLICATION

Commissioner for Patents
BOX PATENT APPLICATION
Washington, D.C. 20231

NONPROVISIONAL

Sir:

Enclosed is the patent application of

Inventors: Kalra et al.

Title: **Text Creating and Editing System and Method with
Dynamic Data Loading**

(Our Deposit Account No. 03-3975)

Our Order No.

Atty. Docket

Client #

Matter #

TMC#

Client Ref

including:

Date: November 6, 2000

1. ☒ Specification: 22 pages
2. ☒ Declaration ☒ Original ☐ Facsimile/Copy
3. ☒ Drawings: 7 sheet(s) ☐ informal ☒ formal
4. ☒ An Assignment and cover sheet. Please return the recorded Assignment to the undersigned.
5. ☒ A Verified Statement establishing "small entity" status under Rules 9 & 27.

THE FOLLOWING FILING FEE IS BASED ON CLAIMS AS FILED LESS ANY ABOVE CANCELLED

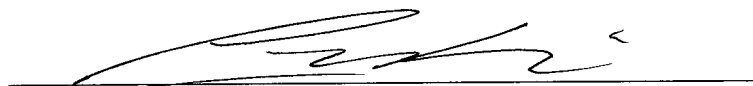
6. Basic Filing Fee.....				\$710/\$355	\$	355.00	101/201
7. Total Claims:	28	minus 20 =	8	x \$18/\$9 =	+	72.00	103/203
8. Independent Claims:	4	minus 3 =	1	x \$80/\$40 =	+	40.00	102/202
9.	TOTAL FILING FEE =				\$	467.00	
10. If "assignment" box is X'd, add recording fee.....				+ \$40/\$40	+	40.00	581
TOTAL FEE :					\$	507.00	

CHARGE STATEMENT: The Commissioner is hereby authorized to charge fees required relative to this application, and to credit any overpayment, to our Account/Order No. above, for which purpose a duplicate copy of this sheet is enclosed.

1100 New York Avenue, N.W.
Ninth Floor, East Tower
Washington, D.C. 20005-3918
Tel: (650) 233-4776
Fax: (650) 233-4545

PILLSBURY MADISON & SUTRO LLP

By: Chang H. Kim, Reg. No. 42,727



Express Mail Label:

EL 560 315 045

Date of Deposit:

November 6, 2000

I certify that this paper and listed enclosures are being deposited with the U.S. Post Office "Express Mail Post Office to Addressee" under 35 CFR 1.10 on the above date, addressed to Commissioner for Patents, Box Patent Application, Washington, D.C. 20231



Conchita Piccapietra

Inventors: Devendra Kalra
App. No.: Unassigned
Filed: Herewith

Atty Dkt. 51309/269966
Client Ref. LNG-003

Title: **Text Creating and Editing System and Method with Dynamic Data Loading**

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9(d) and 1.27(c)) –

I hereby declare that I am an official empowered to act on behalf of the small business concern identified below:

NAME OF CONCERN: **Langoo.Com, Inc.**
ADDRESS OF CONCERN **3901 Freedom Circle, Suite 105, Santa Clara, CA 95054**

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention entitled as above and invented by Devendra Kalra described in the above-captioned specification.

If the rights held by the above-identified small business concern are not exclusive, each small entity, individual, concern or organization having rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who could not qualify under 37 CFR 1.9(c) as an independent inventor if that person had made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e). *Note: Separate verified statements are required from each person, concern or organization having rights to the invention, averring to small entity status (37 CFR 1.27).

FULL NAME of _____

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this case, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF SIGNATORY: Devendra Kalra
TITLE: Director
ADDRESS: 3901 Freedom Circle, Suite 105
Santa Clara, CA 95054

SIGNATURE Devendra Kalra

DATE 11/06/2000

TEXT CREATING AND EDITING SYSTEM AND METHOD

WITH DYNAMIC DATA LOADING

FIELD OF THE INVENTION

5 The present invention relates to a system and method for creating and editing documents or messages on computing devices. More particularly, the present invention is directed to a system and method for creating and editing documents or messages by dynamically loading the required data on the computing device as the documents or messages are being created or edited. The present invention has particular relevance for
10 creating or editing documents or messages in non-English languages using a computing device that is pre-configured to create English documents or messages, but not non-English documents or messages.

BACKGROUND OF THE INVENTION

15 Computing devices such as personal computers, laptop computers, personal digital assistants (PDAs), pagers, cellular phones, Net appliances and the like are commonly used to create and edit documents and messages. Creating documents and messages on a computing device typically requires the user to input the text using an input device (e.g., keyboard, pointing device, mouse, voice) that is associated with the
20 computing device. The inputted text is then displayed on a screen or monitor for providing user feedback.

 The creating and editing processes require mapping the input (e.g., a key on a keyboard) to a glyph or a displayable form. For example, in a conventional computer

system using English alphabets/characters, when the user types the key such as the letter “A” on the keyboard, a code such as “65” is sent to the computing device. The computing device converts or maps the code “65” into the glyph or the displayable form of “A” and renders it on the screen or monitor.

5 The computing device requires both the mapping and displaying mechanisms. The mapping mechanism maps the keyboard input into the glyph or displayable form, and the displaying mechanism uses the glyph or font to represent the characters in the document or message. The mapping mechanism and a set of glyphs or font are generally installed on the computing device before performing the document creating/editing
10 processes. For example, in the personal computer, an application for performing mapping and the font in the language that the user desires to use are generally installed by the user on the computer. In other devices such as pagers, the application and the font are permanently pre-installed therein.

 In some cases, the application and/or the font are not installed on computing
15 devices because of their design characteristics and/or limited memory capacity. In this case, the user cannot use such devices to create documents or messages. One such example is a computing device that is designed for an English-speaking user and the user desires to create a document using a non-English language such as Chinese.

 As described above, conventional text creating/editing systems and methods have
20 many limitations and shortcomings due to the design characteristics or limited memory capacity of computing devices. Accordingly, there is a need for a text creating/editing system and method for overcoming the above-described problems. There is also a need for a system and method that allows a computing device to dynamically configure itself

so that it can be used for creating/editing documents regardless of its design characteristics or memory capacity.

SUMMARY OF THE INVENTION

5 In view of the above-described problems of the prior art, it is an object of the present invention to provide a system and method for enabling users to create documents and messages in any language using any computing device that is capable of communicating with a data storage device.

10 It is another object of the present invention to provide a system and method for creating documents and messages by dynamically loading the required data on the computing device as the documents or messages are being created or edited.

It is a further object of the present invention to provide a system and method for creating documents and messages on a computing device in any language regardless of whether the computing device has been pre-configured to support the desired language.

15 It is still another object of the present invention to provide a system and method for creating documents and messages on a computing device that has limited memory capacity.

20 It is yet a further object of the present invention to provide a system and method for creating documents and messages on a computing device that does not have an associated input device that can generate the codes corresponding to the characters of the language.

These and other objects of the present invention are obtained by providing a system and method using a computing device that can map the input modality of the

device into language specific codes using an algorithm.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of the present invention will become
5 apparent and more readily appreciated from the following detailed description of the
presently preferred exemplary embodiments of the invention taken in conjunction with
the accompanying drawings, of which:

FIG. 1 illustrates a simplified diagram of a system in accordance with the
preferred embodiment of the present invention;

10 FIG. 2 illustrates a block diagram of a computing device in accordance with the
preferred embodiment of the present invention;

FIG. 3 illustrates a simplified flow diagram of the document creating process in
accordance with the preferred embodiment of the present invention;

FIG. 4 illustrates a flow diagram of FIG. 3 with an optional optimization process
15 for discarding unnecessary data in accordance with the preferred embodiment of the
present invention;

FIG. 5 illustrates the data layout for a specific language in accordance with the
preferred embodiment of the present invention;

FIG. 6 illustrates a flow diagram for downloading characters from a data server to
20 a computing device in accordance with the preferred embodiment of the present
invention; and

FIG. 7 illustrates a flow diagram for loading data onto a computing device in

response to a user input in accordance with the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

5 The present invention will now be described in greater detail, which may serve to further the understanding of the preferred embodiments of the present invention. As described elsewhere herein, various refinements and substitutions of the various embodiments are possible based on the principles and teachings herein.

10 The preferred embodiments of the present invention will now be described with reference to FIGS. 1-7, wherein like components and steps are designated by like reference numerals throughout the various figures. Further, specific parameters such as computing devices, languages, mapping techniques, data layout, and the like provided herein are intended to be explanatory rather than limiting.

15 The present invention allows a user to create and edit documents and messages on a computing device that may not have been configured a priori or have limited storage capability to support the entire data set required for creating the documents or messages in a specific language. The computing device is required to communicate with a data storage device to dynamically load the required data from therein. In other words, the computing device loads the required data in response to user input when such data is not
20 found on the computing device. The present invention also allows the computing device to manage the data stored therein based on the user inputs and the characteristics of the computing device.

In operation, the computing device initializes itself with initialization data. As the user inputs more text as part of the document or message, the computing device determines if it has the required data loaded therein to create and display the document or message. If the computing device does not have the required data, it communicates with a data storage device via a communication channel to load the required data into the device. Optionally and occasionally, the computing device may discard unnecessary data that it had previously loaded if it no longer required. In this manner, computing devices with limited memory capability can create documents and messages using fonts that represents hundreds of kilobytes or megabytes. This is especially relevant for devices with very small amount of memory capacity such as cellular telephones and pagers and for use with languages having very large font repertoire like Chinese and Japanese, which contain tens of thousands of characters. In a particular context such as the Internet, the present invention preserves the bandwidth used on the network by not loading a large amount of data and limiting it to what is required.

FIG. 1 illustrates a simplified diagram of a system in accordance with the preferred embodiment of the present invention. The system includes a computing device 100 that is capable of communicating with a data server 102 via a communication channel 104. The data server 102 can be any data storage device that is capable of storing data, fonts, or other information that are required by the computing device to create and edit documents and messages in any language. The data server 102 can be a web server located in a remote location and connected via a network to the computing device 100. Alternatively, the data server 102 or storage device can be placed within the computing device 100 as a hard disk, a flash memory, or the like. The communication channel 104

can be hard-wire, xDSL, ISDN, analog, cable, frame relay, wireless, etc., via a communication network such as the Internet, Intranet, etc. The computing device 100 can be a personal computer 110, laptop computer 112, PDA 114, Net appliance 116, cellular telephone 118, and the like. It is understood that any computing device (those
5 illustrated and not illustrated) can be used in the present invention.

FIG. 2 illustrates a block diagram of a computing device in accordance with the preferred embodiment of the present invention. The computing device 100 (i.e., a personal computer 110, laptop computer 112, PDA 114, Net appliance 116, cellular telephone 118) includes a CPU (central processing unit) 200 connected to a bus 250 for
10 processing the computing tasks required for creating/editing a document or message ("document"). The computing device 100 also includes an I/O (In/Out) interface 202 and a local memory 204 for storing a limited amount of font, glyph, mapping information and other data required for creating/editing the document. Further connected to the bus 250 is a monitor/screen 206 that displays all or part of the document, as it is being
15 created/edited. An input device 208 is also connected to the bus 250 for enabling the user to input text into the computing device 100. The input device 208 may support one or more of many input modalities including a keyboard, a pointing device, a mouse, and microphone. The computing device 100 further includes a communication interface 210 coupled to the bus 250, where the communication interface 210 is used to
20 transmit/receive data to/from the data server 100 via the communication channel 104.

The computing device 100 may also include an audio DSP (digital signal processor) 212 for processing audio signals. When the input device 208 is a microphone, the DSP 212 processes the digital signals that were converted from the analog voice

signals. The computing device 100 may include an audio output 214 such as a speaker so that the document can be presented to the user in audio form. The audio output 214 can be implemented internally and/or externally with the computing device 100. In addition, other components, which are not illustrated herein, but which are commonly used in computing devices may also be included therein. Certain of these components can be implemented in different ways. For example, while the audio DSP 212 that is realized from separate hardware may be used, the same functionalities can be achieved through software (i.e., software in browsers and sound chip in the computing device) that is processed by the CPU 200. The functional components described herein are preferably implemented through application software that is processed by the CPU 200 and/or DSP 212. Those of ordinary skill in the art will recognize other combinations of hardware and software components.

FIG. 3 illustrates a simplified flow diagram of the document creating process in accordance with the preferred embodiment of the present invention. When the computing device 100 is booted up or turned on, a small amount of data is loaded therein to initialize the device 100 in step 300. The initialization data, which is described in greater detail later herein, can be loaded onto the computing device 100 from the data server 100 via the communication channel 104. Alternatively, the initialization step 300 may not be required if the initialization data has been previously loaded onto the computing device 100 during an earlier session.

Next, in step 302, the user inputs text into the computing device 100 using the input device 208. The computing device 100 then processes the text for displaying on the monitor/screen 206 and for creating the document in step 304. As the user inputs the

text, the computing device 100 determines in step 306 if it has the required data loaded thereon to map the inputted text into appropriate characters for displaying on the monitor/screen 206 and for creating the document. In other words, the computing device 100 determines if the data loaded therein is sufficient for displaying and creating the document. If it is determined that more data is required in step 306, the computing device 100 communicates with the data server 102 and loads the required data therein in step 310. Otherwise, if it is determined that the computing device 100 has the required data in step 306, no additional data is retrieved from the data server 102. Thereafter, in step 308, the computing device 100 continues to process the inputted text and displays the text on the monitor/screen 206 and creates the document. This process is repeated for additional user input in step 302.

In the process described above, those skilled in the art will appreciate that other optimization processes such as running multiple processes in parallel can be performed and are contemplated to be within the scope and spirit of the present invention. For example, FIG. 4 illustrates a flow diagram of FIG. 3 with an optional optimization process for discarding unnecessary data in accordance with the preferred embodiment of the present invention. In addition to the processes described in reference to FIG. 3, a data removal process (i.e., cache cleanup process) can be implemented where data that had been previously stored and used, but is no longer required, are removed from the computing device 100. As part of this optimization process, after step 308, it is determined whether some data stored in the computing device 100 can be removed from the memory 204 in step 402. If some data can be removed from the computing device 100 since such data is no longer required, this data is removed in step 404. When such

data is removed, the computer device memory 204 can be used in the most optimal manner. This is an important process when the computing device has limited memory capacity.

FIG. 5 illustrates the data layout for a specific language in accordance with the preferred embodiment of the present invention. In this example and for a more complete understanding of the present invention, FIGS. 5-6 will be described with the assumption that the computing device 100 has no Chinese data loaded a priori and the user desires to create a document in Chinese language. However, a portion of the data may be pre-loaded or pre-installed into the computing device 100 for bandwidth optimization. For example, in the case where no data is preloaded, all data are loaded to the computing device 100 as the user inputs text. However, if it is known a priori that the computing device 100 will be used primarily or frequently for creating documents in Chinese, a portion of the data for creating documents in Chinese can be preloaded on the computing device 100. Then, as the user inputs text to create documents in Chinese, less data needs to be downloaded from the data server 102. The amount of data, including no data, loaded a priori can be adjusted according to the memory capacity of the computing device 100. In the data server 102, data is arranged in a hierarchical fashion allowing the user to perform complex text drafting/editing on the computing device 100 as the data is dynamically downloaded from the data server 102. In addition, at each level, data is set up with sufficient granularity so that a small amount of data can be periodically or sequentially loaded onto the computing device 100 as the user creates the document.

In greater detail, the entire data 500 can be categorized into the initialization data 502 and extended data 504. As described above, the initialization data 502 is downloaded

at the outset of the creating/editing process, while portions of the extended data 504 are dynamically downloaded as the document is being created. For example, in creating a Chinese document, the input methodology is assumed to be a phonetic input in Romanized form. That is, the user inputs the Romanized form of Chinese characters and the computing device 100 converts this form into Chinese characters. For instance, one of the Chinese characters “ni” (as in “ni hao”) in Romanized form will create the Chinese character 你. This particular representation is one of about 40 characters such as 尼, 倪, 拟, 泥, 逆 that represent “ni”. It is well known that some of these characters are used more frequently in documents. Accordingly, when the user inputs “ni”, the Chinese characters are displayed and/or downloaded in the order of usage frequency and popularity. In other words, the more commonly used characters are displayed and/or downloaded first. The particular order in which the characters are downloaded can be tuned to the application at hand and does not necessarily have to be by usage frequency.

These characters are grouped in multiple data units that can be sequentially or periodically downloaded for displaying to the user. For example, the user can view each data unit to determine if the desired character is within such unit. If the desired character is not within the data unit, additional data units corresponding to the phonetic token are downloaded to the computing device 100. This process is repeated until the user locates the desired character from one of the data units. As can be expected, the number of data units can vary depending on the number of data units, downloading time/bandwidth, and the size of each data unit. In the present example, the extended data 504 is composed of

the first data units 506a, 506i, 506n, which itself is composed of extended character data 508 and context data 510. The extended character data 508 is further composed of second data units 512a, 512i, 512m, while the context data 510 is composed of third data units 514a, 514i, 514m.

5 In addition to the extended character data 508, it is possible to store other data or information providing more functionality. For the Chinese language, data is provided for each character that assists in narrowing down the selection based on the context in which the character is used. For example, the character “ni” can have any of the above 40 or so representations, but when it is used next to “hao” as in “ni hao”, only the representation
10 你 is accurate. The application, given the contextual data for the characters, determines and automatically selects one unique usage of the “ni”. To determine this unique combination, the application requires information encoding this context, which information is stored in the context data 510.

Although the above embodiment for representing data uses certain number of data
15 units and corresponding sizes, those skilled in the art will readily appreciate that many modifications of the exemplary embodiments are possible without materially departing from the novel teachings and advantages of this invention. These include, but are not limited to, changing the number of the data units, size of the data units, the number of levels in which these data units are arranged and relative order of the loading of these
20 units. In particular, the data arrangement for simpler languages other than Chinese such as English, Hindi, Persian, Tamil generally involves fewer levels.

FIG. 6 illustrates a flow diagram for downloading characters from a data server to

a computing device in accordance with the preferred embodiment of the present invention. The flow chart of FIG. 6 describes the process that is used to load additional data into the computing device 100 during the document creation process. As described above, the document creation process begins by initializing the system. At the outset, some initialization data 502 are downloaded. As the user continues to input additional text, more data is downloaded and merged with the existing data on the computing device 100 according to the algorithm. For example, as the user types the character “n” in “ni”, the present algorithm runs. Thereafter, when the user types the next character “i”, the algorithm runs again, and this process is repeated.

As illustrated in the flow diagram, as the user inputs a character, it is determined whether context data 510 for a particular character needs to be downloaded from the data server 102 to the computing device 100 in step 600. If it is determined that the data needs to be downloaded in step 600, appropriate unit(s) 514a, 514i, 514m of the context data 510 are downloaded and merged with the data residing on the computing device 100 in step 610. In other words, the context data 510 is merged with the data that was either a part of the initialization data 502 or was downloaded in a previous execution of during this process. The relevant characters (for user input) are then displayed to the user for selection in same step 610. Next, in step 602, it is determined whether the desired character is available to the user, that is, the user selects one of the characters from the various characters presented to him/her. If the user locates the desired character in step 602, the user has selected the character that he/she desires to display in response to the user’s input and that character is displayed as part of the user’s document in step 608. If, however, the character is not available, then the appropriate units 512a, 512i, 512m of the

extended character data 508 are downloaded and merged with the existing data on the computing device 100 in step 604. If the user now locates the character needed in step 606 based on the merged units 512a, 512i, 512m, that character is selected for the document and displayed in step 608. If, however, the character is not found in step 606, the display character selection process terminates. Then, when the user performs the next input operation, this algorithm is activated to determine if the input can map to the display characters and what characters should be displayed.

As noted above, the size of the data quantum loaded into the computing device 100 and the frequency of such transactions can be varied to accommodate the design characteristics and memory capacity of the device 100 and the communication channel 104. For example, a cellular telephone that has limited memory capacity can be connected to the network in a continuously manner or “on demand” using the application running on the device. Examples of such devices are data enabled cellular telephones, two way pagers such as the one from Research In Motion, Inc. (RIM) and hand held devices like the PALM devices from 3COM Corporation. The data quantum can then be reduced to a single glyph and a single contextual data information.

FIG. 7 illustrates a flow diagram for loading data to the computing device in response to user input. In step 700, it is determined if context data 510 needs to be downloaded for the character. If the data is needed and there is more context data 510 available on the data server 102, the first quantum of context data 510 is downloaded and merged into the data in the application in step 704. If, after this merger, the desired character is available to the user in step 706, the data downloading process for this character terminates. If, however, the desired character is not available, the process

repeats itself from in step 702.

If all the context data 510 has been loaded or no additional context data is needed from the data server 102 in step 702, it is determined whether more extended character data 508 is available in step 708. If more extended character data 508 exists in step 708, the next quantum of the extended character data 508 is downloaded and merged in step 710. If, after this merger, the desired character is available to the user in step 712, the data downloading process for this character terminates. Otherwise, if the desired character is not available in step 712, the process repeats itself in step 708. If no more relevant data remains in step 708, then there has been an error and the process terminates in an error.

Although in the above embodiment the context data 510 is downloaded before downloading the extended character data 508, in other embodiments, the context data 510 and the extended character data 508 can be downloaded simultaneously, or only one data type or a mix of the data type can be downloaded.

With the fine level of granularity, the present invention enables computing devices such as cellular telephones and pagers to augment the data required to create a document or message even to a granularity of a key press. That is, as the user inputs each key, the application can dynamically load data, thereby providing complex functionality with very limited memory capacity on the device.

In the previous descriptions, numerous specific details are set forth, such as specific functions, components, etc., to provide a thorough understanding of the present invention. However, as one having ordinary skill in the art would recognize, the present invention can be practiced without resorting to the details specifically set forth.

Although only the above embodiments have been described in detail above, those

skilled in the art will readily appreciate that many modifications of the exemplary embodiments are possible without materially departing from the novel teachings and advantages of this invention.

CONFIDENTIAL

I Claim:

1. A method of creating a document on a computing device, comprising:

initializing the computing device with initialization data;

5 inputting text to the computing device to initiate the document creation process;

determining whether the initialization data can create the document on the

computing device; and

loading extended data to the computing device from a data storage location if the

computing device cannot create the document with the initialization data, wherein the

10 extended data alone or in combination with the initialization data are used to create the document.

2. A method according to claim 1 further comprising discarding undesired

data from the computing device after creating the document.

3. A method according to claim 1 further comprising dynamically loading

the extended data during the text inputting step.

4. A method according to claim 1 further comprising inputting text in a first

20 language and loading the extended data that corresponds to a second language.

5. A method according to claim 4 further comprising displaying the

document on a monitor in the second language.

6. A method according to claim 4, wherein the first language comprises a Roman language and the second language comprises a non-Roman language.

5

7. A method according to claim 4, wherein the first language comprises a non-Roman language and the second language comprises a Roman language.

8. A method according to claim 4, wherein the first language comprises English and the second language comprises non-English.

9. A system for creating a document on a computing device, comprising:
means for initializing the computing device with initialization data;
means for inputting text to the computing device;
15 means for determining whether the computing device can create the document with the initialization data;
means for dynamically loading extended data to the computing device from a data storage location if the computing device cannot create the document with the initialization data; and
20 means for creating the document with the extended data alone or in combination with the initialization data.

10. A system according to claim 9 further comprising means for displaying the

document on a monitor.

11. A system according to claim 10 further comprising means for discarding undesired data from the computing device after creating and displaying the document.

5

12. A system according to claim 9, wherein the means for inputting the text comprises one of a keyboard, mouse, pointing device, and voice.

13. A system according to claim 9, wherein text is inputted in a first language and the document is created in a second language different from the first language.

10

14. A system according to claim 13, wherein the first language comprises a Roman language and the second language comprises a non-Roman language.

15

15. A system according to claim 13, wherein the first language comprises a non-Roman language and the second language comprises a Roman language.

16. A system according to claim 13, wherein the first language comprises English and the second language comprises non-English.

20

17. A system according to claim 9, wherein the computing device comprises one of a personal computer, laptop computer, personal digital assistant, cellular telephone, and a net appliance.

18. A method of creating an electronic document on a computing device,
comprising:

inputting text into the computing device;

5 determining whether the computing device has data stored therein to create the
document and if so, creating the document;

downloading extended data from a data storage location when the computing
device does not have data stored therein to create the document; and

creating the document using the extended data.

10 19. A method according to claim 18, wherein downloading the extended data
is performed in a sequential manner.

20. A method according to claim 18, wherein downloading the extended data
15 is performed in a periodical manner.

21. A method according to claim 18 further comprising discarding undesired
data from the computing device after creating the document.

20 22. A method according to claim 18 further comprising dynamically
downloading the extended data during the text inputting step.

23. A method according to claim 18 further comprising inputting text using a

first language and downloading the extended data that corresponds to a second language.

24. A method according to claim 23 further comprising displaying the document on a monitor in the second language.

5

25. A method according to claim 23, wherein the first language comprises a Roman language and the second language comprises a non-Roman language.

26. A method according to claim 23, wherein the first language comprises a non-Roman language and the second language comprises a Roman language.

10

27. A method according to claim 23, wherein the first language comprises English and the second language comprises non-English.

15

28. A method of creating a document on a computing device, comprising:
inputting text to the computing device to initiate the document creation process;
determining whether the initialization data, if loaded, can create the document on the computing device; and

20

loading extended data to the computing device from a data storage location if the computing device cannot create the document with the initialization data, wherein the extended data alone or in combination with the initialization data are used to create the document.

ABSTRACT

The present invention is directed to a system and method for creating and editing documents or messages by dynamically loading the required data on the computing device as the documents or messages are being created or edited. This invention has relevance for creating or editing documents or messages in non-English languages using a computing device that is pre-configured to create English documents or messages, but not non-English documents or messages. Further, the present invention allows a user to create and edit documents and messages on a computing device that may not have been configured a priori or have limited storage capability to support the entire data set required for creating the documents or messages in a specific language. The computing device is required to communicate with a data storage device to dynamically load the required data from therein.

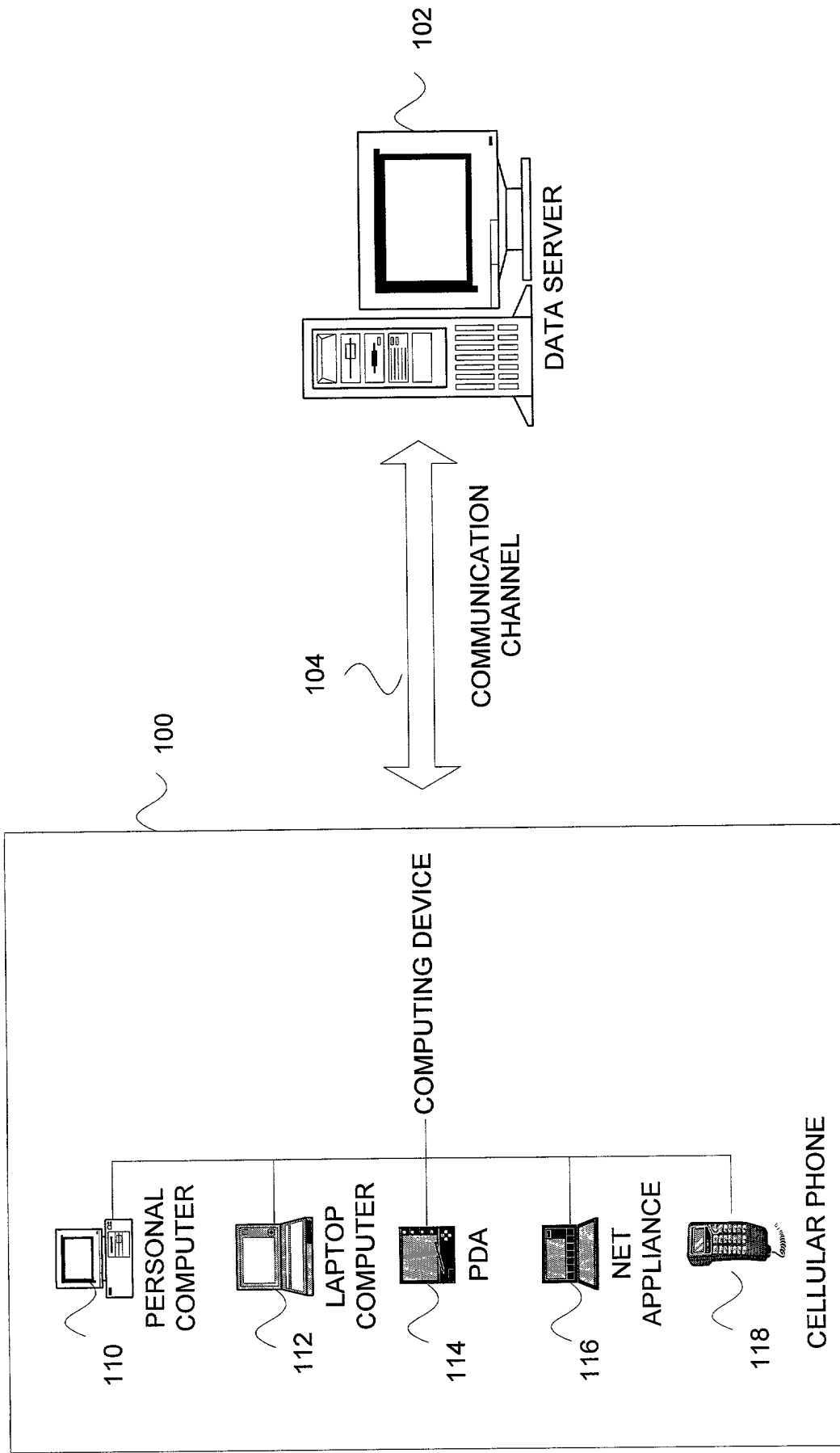


FIG. 1

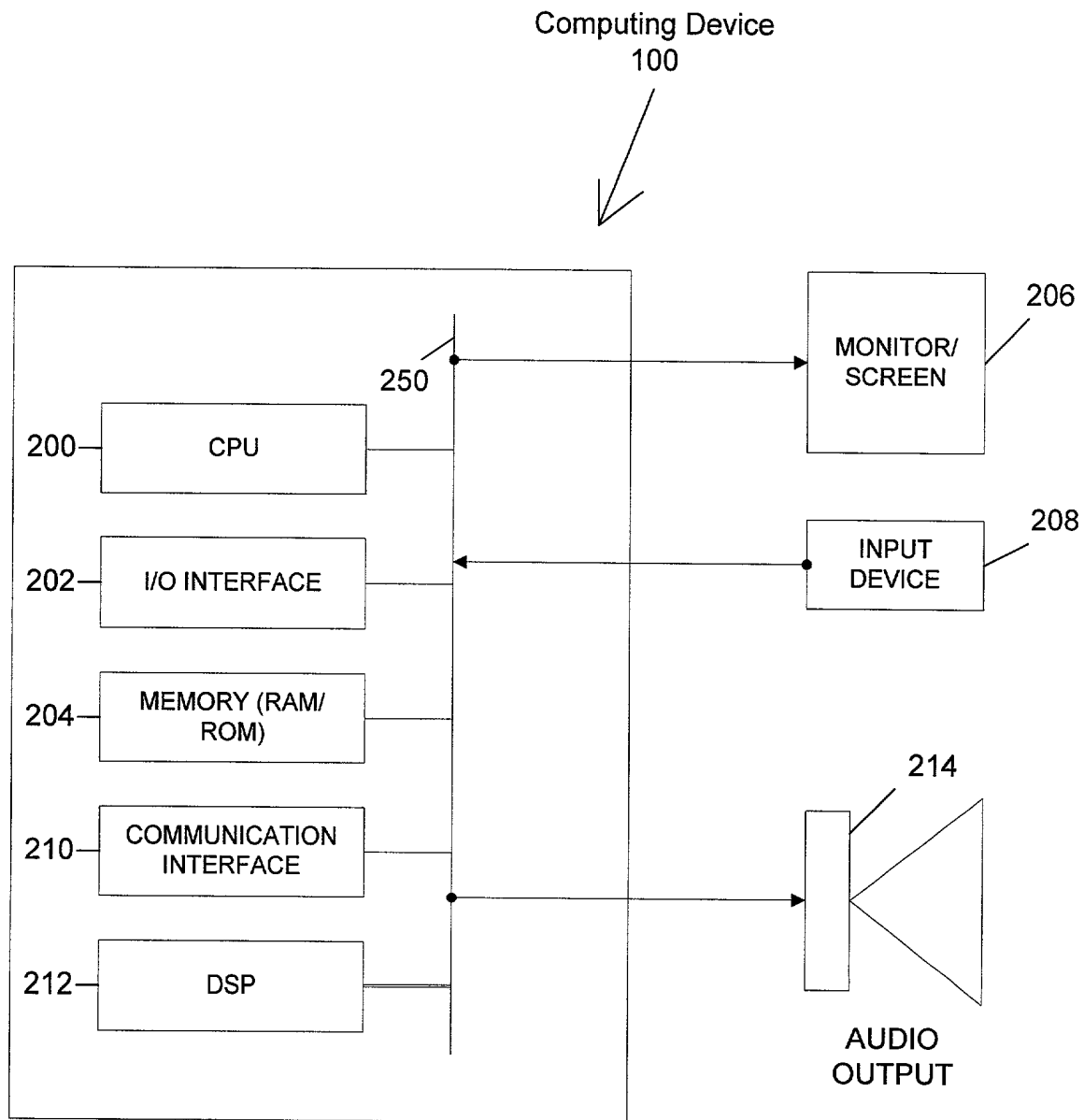


FIG. 2

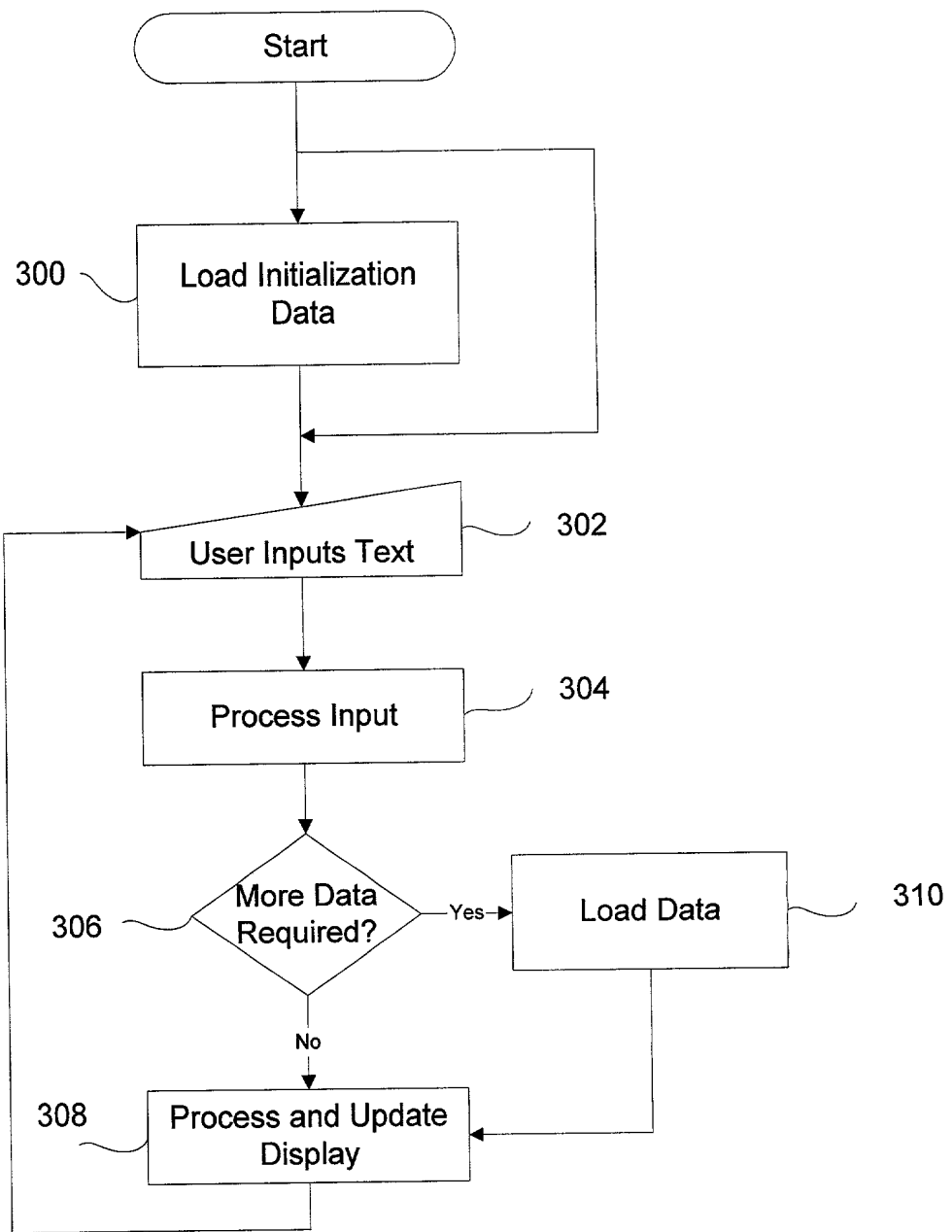


FIG. 3

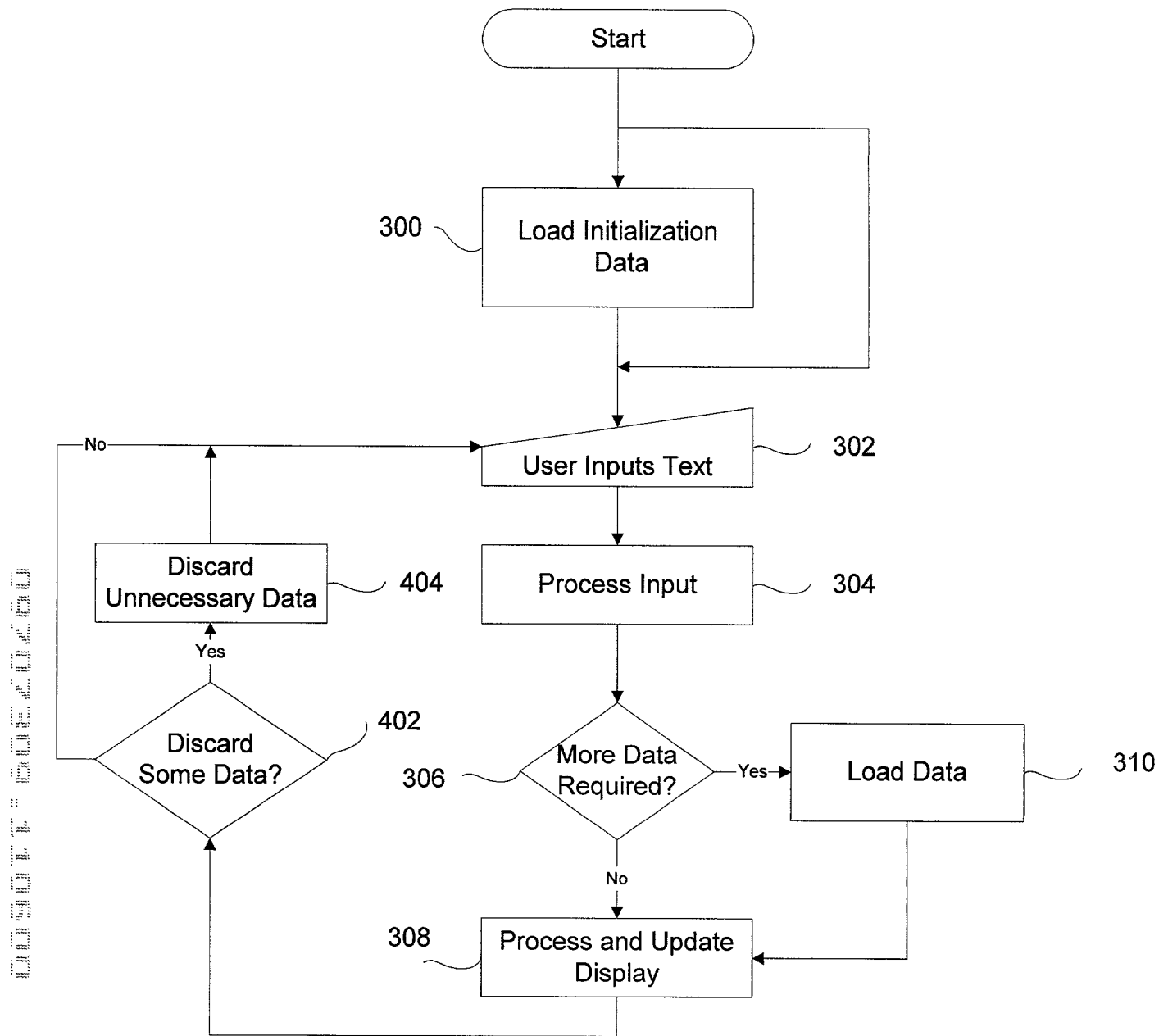


FIG. 4

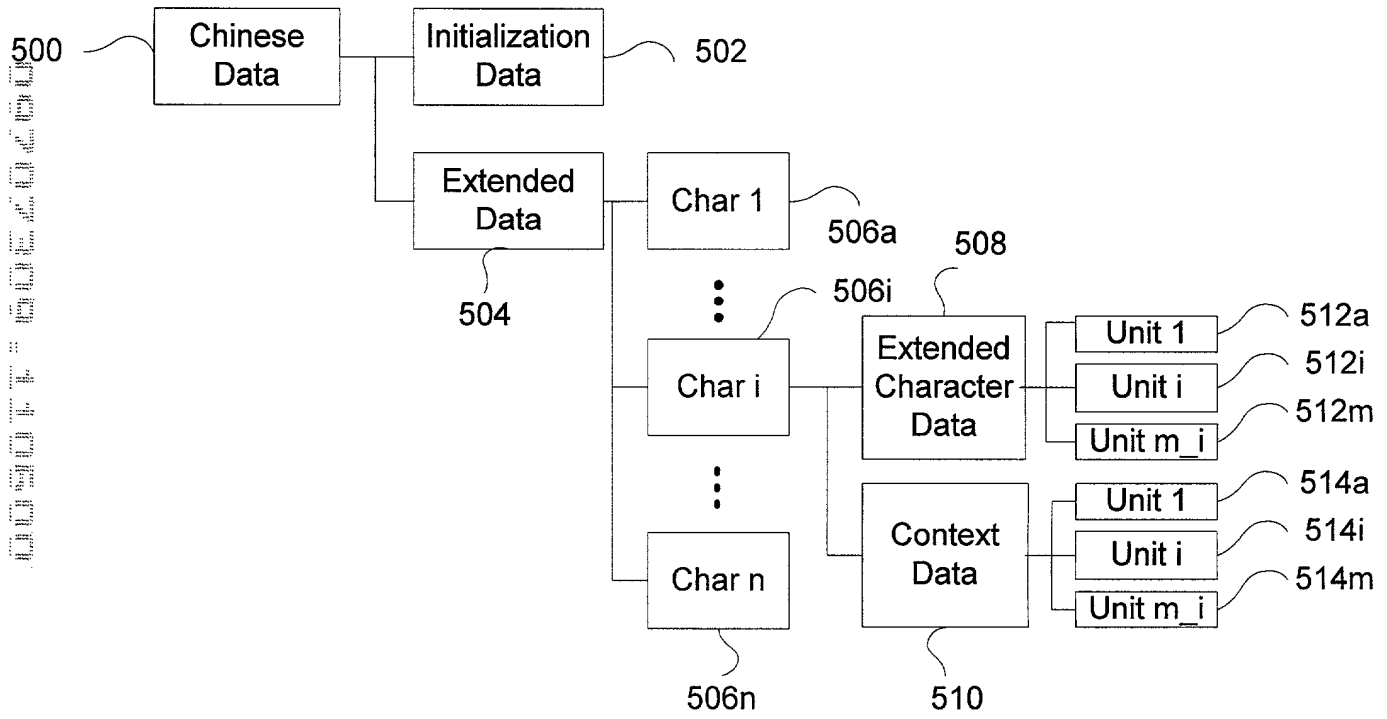


FIG. 5

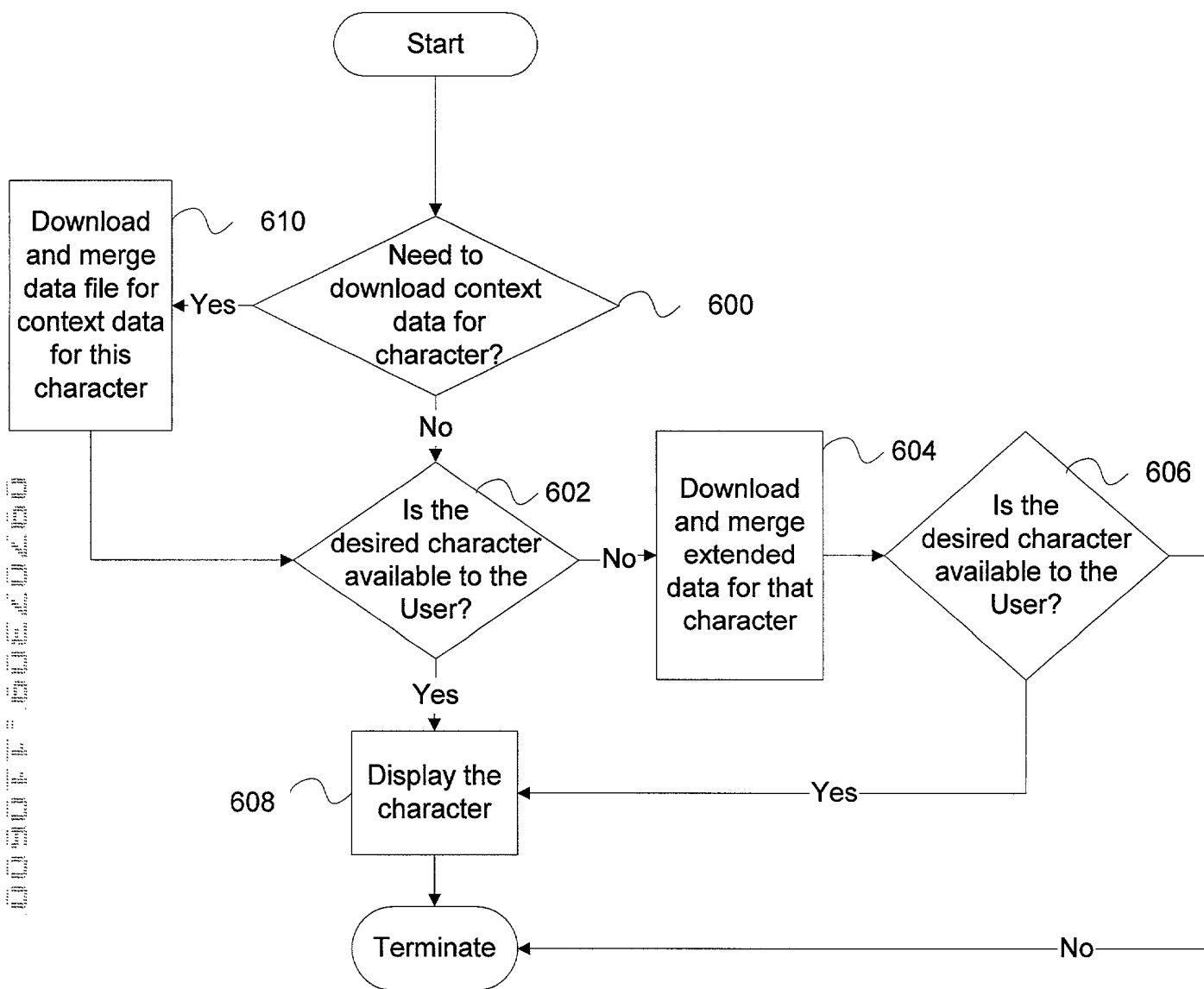


FIG. 6

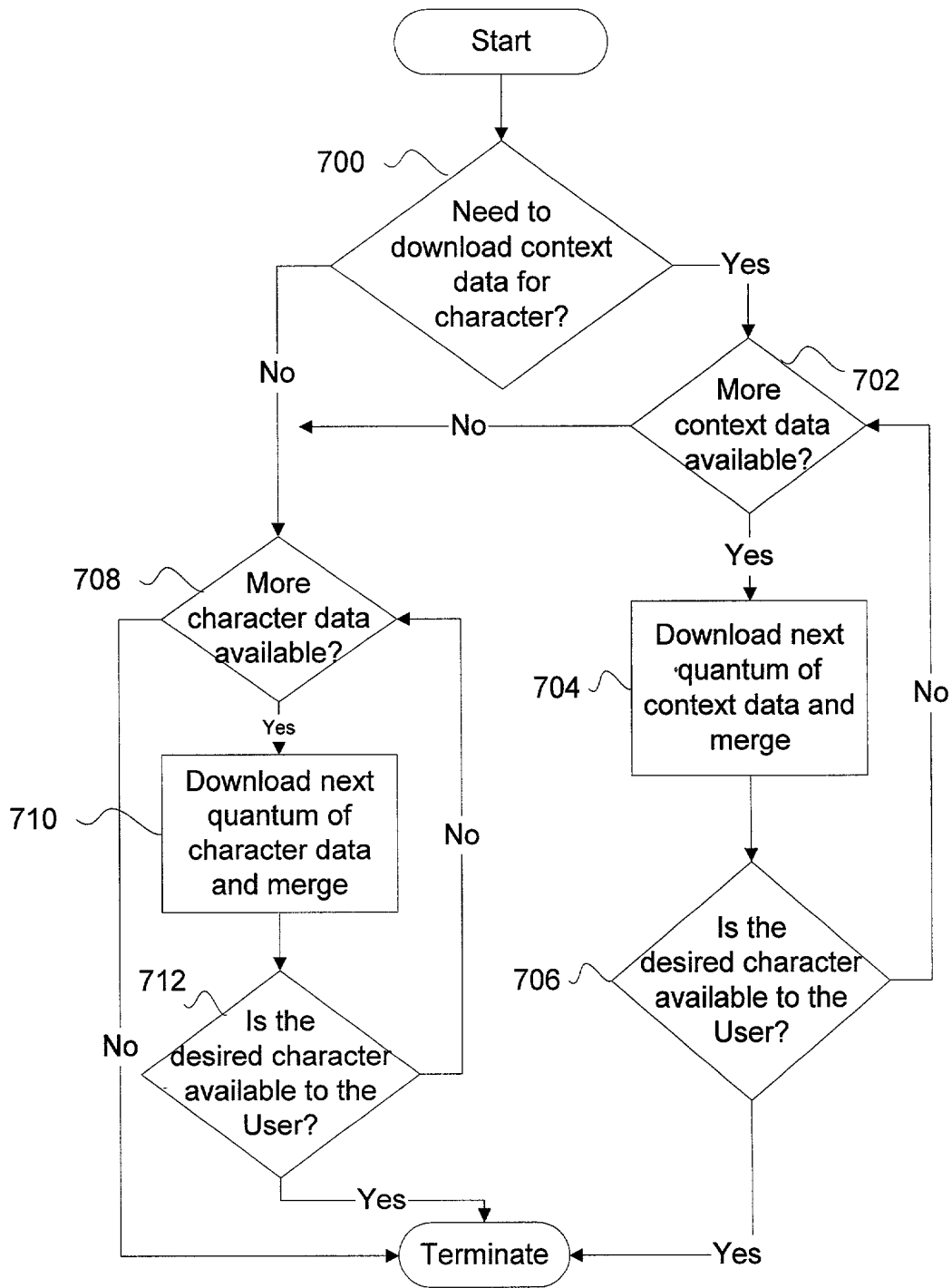


FIG. 7

**DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION**

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED **Text Creating and Editing System and Method with Dynamic Data Loading**, the specification of which is attached hereto, bearing Atty Docket No. 51309/269966

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56. I hereby claim foreign priority benefits under 35 U.S.C. 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application:

PRIOR FOREIGN APPLICATION(S):	Date first Laid-	Date Patented	Priority Claimed?
Number Country Day/MONTH/Year Filed	open or Published:	or Granted:	Yes <input type="checkbox"/> No <input type="checkbox"/>

I hereby claim domestic priority benefit under 35 U.S.C. 119/120/365 of the indicated United States applications listed below and PCT international applications listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in this application is in addition to that disclosed in such prior applications, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of each such prior application and the national or PCT international filing date of this application:

PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATIONS	Status	Priority Claimed?
Application No.: Day/MONTH/Year Filed:	(pending, abandoned, patented)	Yes <input type="checkbox"/> No <input type="checkbox"/>

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint Pillsbury Madison & Sutro LLP, 1100 New York Avenue, N.W., Ninth Floor, East Tower, Washington, D.C. 20005-3918, tel. (650) 233-4790 (to whom all communications are to be directed), and the below-named persons (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to delete names of persons no longer with their firm and to act and rely on instructions from and communicate directly with the assignee which first sent this case to them and by which I hereby declare that I have consented after full disclosure to be represented, unless/until I instruct the above Firm in writing to the contrary.

Paul N. Kokulis	16773	Dale S. Lazar	28872	Timothy J. Klima	34852	W. Patrick Bengtsson	32456
Raymond F. Lippitt	17519	Glenn J. Perry	28458	Stephen C. Glazier	31361	Jack S. Barufka	37087
G. Lloyd Knight	17698	Kendrew H. Colton	30368	Paul F. McQuade	31542	Adam R. Hess	41835
Carl G. Love	18781	Paul E. White, Jr.	32011	Ruth N. Morduch	31044	William P. Atkins	38821
Kevin E. Joyce	20508	G. Paul Edgell	24238	Richard H. Zaitlen	27248	Paul L. Sharer	36004
George M. Sirilla	18221	Lynn E. Eccleston	35861	Roger R. Wise	31204		
Donald J. Bird	25323	David A. Jakopin	32995	Jay M. Finkelstein	21082		
Peter W. Gowdey	25872	Mark G. Paulson	30793	Michael R. Dzwonczyk	36787		

INVENTOR'S SIGNATURE:

Devendra Kalra

Date

11/06/2000

Inventor's Name: **Devendra Kalra**
Residence (City, State): **Fremont, California**
Post Office Address: **34012 Webfoot Loop**
Fremont, CA 94555

Country of Citizenship: **India**

Rule 56(a) & (b) = 37 C.F.R. 1.56(a) & (b)
PATENT AND TRADEMARK CASES - RULES OF PRACTICE
DUTY OF DISCLOSURE

- (a) ... Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the [Patent and Trademark] Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability...(b) information is material to patentability when it is not cumulative and (1) It also establishes by itself, or in combination with other information, a prima facie case of unpatentability of a claim or (2) refers, or is inconsistent with, a position the applicant takes in: (i) Opposing an argument of unpatentability relied on by the Office, or (ii) Asserting an argument of patentability.

PATENT LAWS 35 U.S.C.

§102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless--

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent or
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months* before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§103. Condition for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. Subject matter developed by another person, which qualified as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

* Six months for Design Applications (35 U.S.C. 172).